GAS CLEANSING STATIONS

by
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For the sake of clarity I want to repeat what has already been said in regard to decontamination and cleansing and the definition of those two terms. The term decontamination is used in referring to the removal or neutralization of chemical agents that have contaminated inanimate objects--streets, open areas, buildings, and vehicles. The removal or neutralization of a chemical agent on a person is termed cleansing, as we noted this morning in the discussion on the gas cleansing stations.

The facilities I am going to discuss will be devoted to the use of injured persons who in addition have been contaminated with a vesicant.

The ordinary citizen, that is, the ambulatory patient or the person who is uninjured and is a chemical casualty, will have to apply self-aid in his home or at some place that has been established in the sector by the Warden. Each Warden's post is supposed to be provided with soap and water so that the Warden can cleanse himself if he becomes a chemical casualty. If an incident occurs in his neighborhood, it is very likely that he will have to do that. In case the post itself is an incident, that is, destroyed by either a fire bomb or a high explosive bomb, the Warden is going to need some alternate place to go. He is going to have to make arrangements with the janitor of some apartment house or some home nearby for the use of the bathroom and shower facilities. He likely will seek places where they may have a basement shower, where it is rather easy for a person to get into without going through the rest of the house. He will also have to make arrangements for individuals who may be caught in the street to get into this place and cleanse themselves. Ambulatory persons will not be sent to the cleansing stations that we have under discussion this morning. It probably will be necessary to have guards stationed on the outside to keep such persons from interfering with the operation of the cleansing station while the injured are being attended.

There is a second use to which the cleansing station may be put. Certain members of the protection personnel, such as Gas Reconnaissance Agents and the Decontamination Units, will need places where they can come and take off their protective clothing and cleanse themselves. After the injured have been taken care of in the cleansing station, it is very likely that the cleansing station will be used by some of the

protective services for that purpose. Then there is also the problem of taking care of dead bodies. They may be handled at the cleansing station or at the morgue. That depends on the setup and arrangements you make in your community.

The thing to remember is that the cleansing station is designed primarily to protect the hospital, the doctor, and the nurse rather than to do much for the patient. We have heard a good deal in the last two days about the rapidity with which some of these vesicants act; we realize that it may not be a matter of minutes but it may be half an hour or so from the time a person is a chemical casualty until you get him into the cleansing station. Therefore, the treatment given in the cleansing station will not be of much value to the patient except in preventing the extension of contamination and consequent burns.

I am primarily interested in the construction of the cleansing station. In that task, you may request the assistance of the Senior Gas Officer in your local community or the State Gas Consultant, and it is about that job that I want to tell you something today, and point out to you where to get the information you need in your local communities. In your local community, if you are interested in setting up cleansing stations, seek out the Senior Gas Officer. He will be attached, as we said the other day, to the staff of the Commander, and he will be able to give you technical advice concerning this facility.

Briefly, there are three parts to a cleansing station. There is an undressing room, where the patients are brought into the station itself, the cleansing room, and finally a dressing room territory which may actually be either your hospital receiving room or the casualty station to which the cleansing station is attached. The suggested size for a typical station would be to have an undressing room with an area of about 400 square feet, a cleansing room with 500 square feet of space, and then if a third room is provided, it should have about 400 square feet of space. Between the undressing room and the cleansing room is a gas lock. This is provided to lock out the gas which is undoubtedly going to contaminate the air in the undressing room, since you are removing clothing that is likely to be badly contaminated.

I have some diagrams here that we can look over, showing suggested room layouts and equipment. Incidentally, I want to point out that the walls, ceiling, and floor of this room should be sealed. You can effectively seal them by painting with two or three coats of sodium silicate (water glass).

Just outside the undressing room is placed a shuffle box. This is similar to the shuffle box which was shown in the decontamination movie and which the men stepped into and shuffled around with their boots, rubbing the material around on them in order to remove any contamination that was on their feet. This prevents the carrying of contamination into the station. There are saw horses to take

4-6 stretchers, drains in the floor and large metal cans or bins for the contaminated clothes. The cans, or bins, must have tight covers, so that the contaminated clothing can be covered up. You probably will need an additional supply of cans of this sort so that as these cans become filled they may be removed and fresh ones brought in. An exhaust fan at floor level is needed to remove contaminated air. In this diagram I have suggested that the exhaust fan be away from the entrance so that if there is any leakage at ground level, the gas will not return through the doorway. You should carry a stack up the side of the building to dissipate the gas where it will not do any damage.

Tables are provided with wash basins and hypochlorite solution, so that the people that are working here can wash their protective clothing and rubber gloves as they become contaminated.

I have suggested also that we should have a couple of benches or chairs that could be used by sitting cases. The gas lock for passage into the cleansing room is shown in this diagram. This is a section through the lock. The curtain is rolled up at one end and put on the shelf, where it will stay in ordinary circumstances so you can pass directly through the lock. The lock should be about 10 feet long and about 3 feet wide, so that two men and the stretcher can get completely into it. The entrance curtain can be put down tight to shut off air completely from the lock before we open the outlet curtain and pass into the other room, so that there is never a clear passage for air through the lock.

The cleansing room is about 25% larger than the undressing room, and should be supplied with additional equipment. The trash cans may be smaller, because you are not going to handle clothing--you are only going to have swabs and other materials that have been used for cleansing. Cans should open with a foot treadle and be easy of operation. Hose connections are furnished for washing the stretcher cases. Again benches are suggested for the sitting cases. Showers are provided for use in the cleansing of the station personnel and other protection personnel.

An ample number of floor drains are required to carry away any vesicant as rapidly as possible. Included also are wash stands and eye irrigation equipment.

When the patient has been cleansed, we are ready to turn him over to the hospital personnel. An area is marked out in the cleansing room, maybe by a curbing that is kept clean. Transfer horses are erected over the marking or curbing and the patient transferred from the cleansing room personnel to the hospital personnel at this point. A clean dry stretcher would likely be used from here on.

The exhaust fan will reduce the pressure in the undressing room so that any flow of air will tend to go from the dressing room to the undressing room. We probably would put a curtain across the doorway from the cleansing room to the hospital to prevent any appreciable flow of air into the hospital. The patients coming into the cleansing room still have some vesicant on their skin, so that air in this room is somewhat contaminated.

It is not possible to construct new buildings now. Nor is it possible to set up at this time elaborate cleansing stations. The things that we have to consider are these: (1) So far, war gases have not been used against the United States; (2) The construction of such stations would be rather an expensive item; (3) There is a scarcity of materials, particularly the plumbing and other metal parts; (4) The actual building of these stations at this time might to some extent interfere with the present use of our hospital facilities. The opportunity to use such secondhand materials as are available should not be overlooked.

Now let us see how we should approach the problem in order to meet adequately the needs of the moment. First, of course, we are only going to provide these facilities for a specific group, the seriously injured who are contaminated. It may be possible to utilize the same facilities for the cleansing of certain personnel of the Citizens Defense Corps as mentioned above. All other persons will be expected to apply the principles of self-aid as set forth in Operations Letter No. 128.

It has been pointed out that in large industrial plants the principles of self aid cannot be effectively followed by the personnel because of a lack of suitable water outlets. This is a problem which must be worked by the plant protection personnel, and is therefore not a concern of the local medical gas officer unless his assistance is requested by the head of the plant protection service.

In establishing cleansing stations one should utilize as far as possible the existing structures that are available for conversion now. I am sure that all of you can think of some places that could be used. It has been suggested that each hospital of 150 beds or over, in the areas vulnerable to attack, should be provided with a cleansing station. Cleansing stations should be provided within the ratio of about 1 to every 50,000 of population. If 150 bed or larger hospitals are not available, you should use the smaller hospitals, or if it is indicated by the geographical location you should utilize the casualty stations. Improvised cleansing stations can be made in hydrotherapy rooms. Considerable plumbing is already in place in such rooms. They can be arranged in nurses' locker and shower rooms at the hospital. They could be part of the out-patient department. Garages or other separate buildings at hospitals could be converted. School shower rooms, when schools are close to the hospitals, can be used. Maybe you will want to run a cleansing station at a school which is several blocks from the hospital and shuttle some clean ambulances back and forth. Gymnasiums and shower rooms, and shower rooms in clubhouses,

including the Y.M.C.A.'s and the Y.W.C.A.'s, hotel washrooms with outside entrance, and gasoline filling stations, if of appropriate design, may be converted.

You will notice that there has been no gas lock indicated to the outside for this cleansing station. It is not intended that this station would be able to operate in an area under gas attack. In other words, if your cleansing station were contaminated itself, you would not, under this plan of construction, be able to operate it as a cleansing station.

There are a few minimal structural requirements that are needed for these improvised gas cleansing stations. In the first place, we should have a separate entrance, that is, an entrance which leads directly to the cleansing station, into the undressing room, from the outside. There should be an undressing space of about 400 square feet. The walls and floor and ceiling should be made relatively non-absorbent. A gas lock should be constructed between the undressing and cleansing rooms. You may find that the doorway between the two rooms needs enlarging in order to get this type of construction in here and get a 3 foot clearance to take your stretchers through. The cleansing room should properly have a tile or cement floor and be well drained. Remember, in the cleansing room you are going to have lots of water on the floor, and my recommendation is to keep the drainage around the outside wall. Do not clutter up the middle of your floor with a drain if you can help it.

You will need plenty of hose outlets and shower heads. If the cleansing station is a part of or in connection with a hospital, you may go directly from the cleansing room into the hospital receiving room with your patients, once they have been cleansed.

If there is not a hospital room in connection, you should have a dressing room of at least 400 square feet in area in order to do first aid work before the patient is removed from there to the hospital.

QUESTION: What about protective clothing for the people who first receive the gas casualties?

MR. CARY: I am going to let Dr. Bennett take care of that under the Chain of Evacuation of Casualties.

QUESTION: When these stations are actually in use, do you recommend having separate stations for men and women?

MR. CARY: Dr. Bennett is recommending that you have both men and women attendants in the cleansing station. Separate facilities would not be provided at this time.